BULGARIA / Chemical Technology. Chemical Products and Their Application. Ceramics. Glass. Binding Materials. Concrete. H

Abs Jour: Ref Zhur-Khimiya, No 12, 1959, 43228.

Author : Gavritov A., Stoyanov T.
Inst : Not given.
Title : Certain Modifications in the Bulgarian Standard BDS 172-50 Entitled "Additional Materials for Concrete".

Orig Pub: Ratsionalizatsiya (Bulg.), 1958, 8, No 11, 34-37.

Abstract: No abstract.

Card 1/1

STOYANOV, V., inshener-podpolkovnik; CHEPELEVSKIY, I., inshener-podpolkovnik.

Repairing electric equipment in the field. Tankist no.5:38-43 My '56. (MIRA 11:3)
(Tanks (Military science)--Electric equipment)

BULGARIA

STOYANOV, Dr. V., VIZPB

"Prophylactic and Therapeutic Properties of Hyperimmune Serum Against Edema Disease of Young Pigs"

Sofia, Veterinarna Sbirka, Vol 63, No 11, pp 10-11

Abstract: A polyvalent hyperimmune serum against the edema disease of young pigs was developed in Bulgaria. The serum is obtained by hyperimmunizing pigs with strains 0138, 0139, 0141, and 0147 of hemolytic E. coli, which were isolated in 90% of cases from pigs that died of edema disease. The serum is being produced at the Vratsa Research and Production Institute of Hog Diseases. Tests carried out on mice indicated that the serum produced immunity against infection with the strains used in its production and a number of other strains of E. coli. Tests on young pigs demonstrated that the serum has a good prophylactic and therapeutic effect.

1/1

BULGARIA/Diseases of Farm Animals - Diseases Caused by Bacteira R
and Fungi

Abs Jour : Ref Zhur Biol., No 5, 1959, 21398

Author : Stoyanov, V.
Inst : -
Title : The Role of Conditionally Pathogenic Bacteria in Piglets Affected with Pneumonia and Their Treatment with Biomycin

Orig Pub : Zhivotnov'dstvo i vet. delo, 1957, 11, No 7, 26-23

Abstract : From the lung tissue of piglets slaughtered because of pneumonia, pasteurella cultures were isolated in 85 percent and salmonella cultures in 60 percent of cases, as well as streptococci, staphylococci, coliform bacteria and pseudomonas pyocyanea. All these cultures proved to be sensitive to the effect of biomycin in vitro. The treatment of piglets for a period of 1-5 days with biomycin (10 mg/kg twice daily) showed good results after 1-2 days. The majority of the pneumonia cases which

Card 1/2

BULGARIA / Forestry. General Problems. K-1

Abs Jour: Ref Zhur-Biol., No 10, 1958, 72771.

Author : Stoyanov, Vasil.
Inst : Not given.
Title : Soviet Forestry Science and Its Achievement in the Forty Years of Soviet Power.

Orig Pub: Priroda (Bulg.), 1957, 6, No 5, 83-87.

Abstract: No abstract.

Card 1/1

LAZARENKO, Boris Romanovich; LAZARENKO, Natal'ya Iosafovna; STOYANOV, V.I., otvetstvennyy red.; MOYZHES, S.M., red.izd-va; MOSKVICHEVA, E.I., tekhn.red.

[Electric spark machining of current-carrying materials] Elektroiskrovaia obrabotka tokoprovodiashchikh materialov. Moskva, Izd-vo Akad.nauk SSSR, 1958. 183 p. (MIRA 11:3)
(Metal cutting, Electric)

STOYANOV, Vl.,TS; SHOPOV, P.V.

Cases of the so-called periodic disease in the Bulgarian People's Republic. Klin.med. 39 no.3:141-145 Mr '61.
(MIRA 14:3)

1. Zav. terapevticheskim otdeleniyem pro Gorodskoy bol'nitse Pervomay (for Stoyanov). 2. Glavnyy vrach pri poliklinike No.3 Plovdiva (for Shopov).
(BULGARIA--PERIODIC DISEASE)

BULGARIA/Human and Animal Physiology. Nervous System. General Problems. T-10.

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55980.

Author : Stoyanov, V. Ye.
Inst : Scientific Research Institute of Psychological and Neurological Sciences.
Title : Motor Chronaxy in Patients with Organic Brain Diseases (Pyramidal and Extrapyramidal Lesions) in the State of Wakefulness, Sleep, and in Intermediate States.

Orig Pub: Tr. Nauchnoissled. psikho-nevrol. in-t, 1956, 2, 23-36.

Abstract: The indicators of motor chronaxy (Ch) of the surface flexor and general extensor digitorum in 10 healthy people proved to approximate the data of Markov and Purgin'on. In the intermediate state from sleep

Card : 1/2

Card : 2/2

POPOV, G.; STOYKOV, M.; IVANOV, A.; GOSPODINOV, B.; SEDLOYEV, S.; STOYANOV, Ye.; VOLCHANOVA, S.; KOLEV, L.

Extracardial anastomoses in congenital and acquired heart defects in experiment. Khirurgiia 36 no.3:38-41 Mr '60. (MIRA 13:12)

(HEART—SURGERY)

STOYANOV, Yemil, doktor; KHRISTOVA, Simeonka, meditsinskaya sestra

Reanimation during surgery, anesthesia, and in the postoperative period. Med. sestra 20 no.1:11-14 Ja '61. (MIRA 14:3)

1. Vysshiy meditsinskiy institut.. Kafedra po khirurgicheskim boleznyam s urologiyey, Sofiya.
(SURGERY, OPERATIVE)

STOYANOV, Ye.M.; STRAKHILOV, D.

Influence of chlorpromazine on the course of staphylococcal infection. Khirurgiia no.12:97-101 '61. (MIRA 15:11)

1. Iz kafedry khirurgii i urologii (zav. - prof. G. Popov) Vysshego meditsinskogo instituta v Sofii i laboratorii po gigiyene pri meditsinskom otdele Ministerstva vnutrennikh del (nach. - d-r D. Todorov).
(CHLORPROMAZINE) (STAPHYLOCOCCAL DISEASE)

ACC NR: AT6036742 SOURCE CODE: UR/0000/66/000/000/0106/0109

AUTHORS: Balkevich, V. L.; Stoyanov, Yu. I.

ORG: none

TITLE: Installation for determining electrical conductivity of oxide ceramics at high temperatures in vacuum

SOURCE: Nauchno-tekhnicheskoye obshchestvo chernoy metallurgii. Moskovskoye pravleniye. Vysokoogneupornyye materialy (Highly refractory materials). Moscow, Izd-vo Metallurgiya, 1966, 106-109

TOPIC TAGS: corundum, corundum refractory, electric conductivity, aluminum oxide, chromium oxide, pump, oil transformer/ MM-40 pump, RVN-20 pump, RNO-250-10 oil transformer

ABSTRACT: An installation for the determination of electrical conductivity of oxide ceramics at high temperature in vacuum was developed. The installation consists of; 1) high-temperature vacuum furnace equipped with tungsten heaters; 2) sample holder; 3) forevacuum pump RVN-20; 4) device for measuring electrical resistance; 5) oil diffusion pump MM-40; 6) vacuum gage VIT-1; 7) step-down transformer; 8) regulating oil transformer RNO-250-10. A schematic of the installation is presented. The installation was used for determining the specific electrical resistivity of pure aluminum oxide and of aluminum oxide (containing known amounts of Cr_2O_3) over the

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temperature range from 200 to 11,000C. The experimental results are shown graphically (see Fig. 1). It was found that the measured values of electrical resistivity were

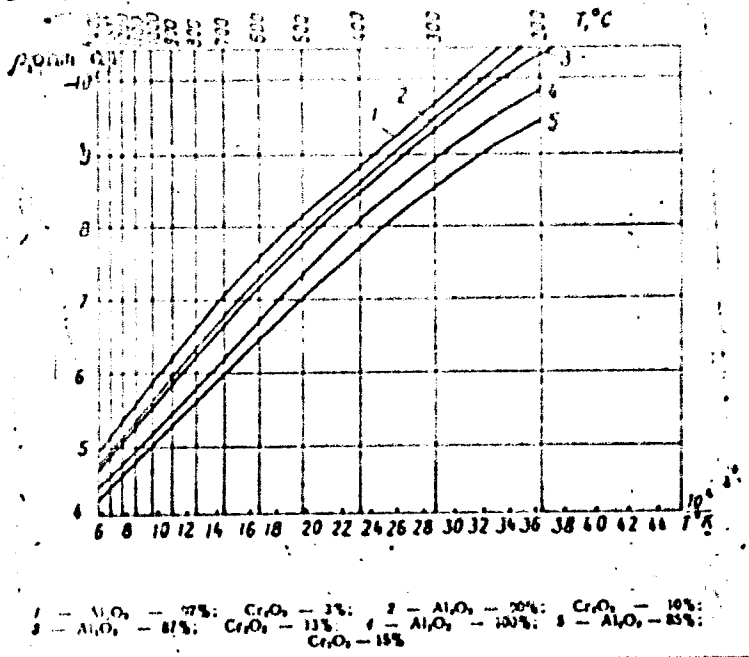

Fig. 1. Dependence of specific resistance of corundum on its composition.

ACC NR: AT[illegible]

[illegible] identical with the values obtained by other workers for the same materials measured in air. Orig. art. has: 4 graphs.

SUB CODE: 11/ SUBM DATE: 02Nov65/

Card 3/3

I

Bulgaria / Plant Physiology. Water Regimen

Abs Jour : Ref Zhur - Biol., No 9, 1958, No 38930

Author : Stoyanov, Zharko
Inst : Institute of Forestry
Title : Investigation of the Influence of Various Chemicals Upon the Water Regimen of Plants.

Orig Pub : Izv. In-ta za gorata, Bulg. AN, 1957, 2, 397-435.

Abstract : In the case of sunflower varieties Nos. 107 and 75 grown in washed sand (200 gm) with the admixture of various chemicals, in a 15-day growth there was determined the intensity of transpiration (I) relative to the change of weight of the plant and the number of plants lost (II) after transplantation into the soil. Values I and II were lowered on feeding with 0.5% KNO_3 (3-8 ml) and K_2CO_3 (2 - 4ml); the depressing activity of 0.2M KH_2PO_4 (4.8 and 15ml) and KCL was shown only in I. Ammonia salts and carbamide in low doses (1-

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-- under the action of NH_4NO_3 II was lowered; under the action of $(NH_4)_2SO_4$ and carbamide it was raised, while in the presence of $(NH_4)_2CO_3$ it remained almost unchanged. In high doses (increased by 5-6 ml), the aforementioned substances [illegible] In poor ambiance 0.01 M H_3BO_3 (up to 20 ml) raised I and II, while in the presence of the Knop solution, it lowered II. HCl and H_2SO_4 (0.1 M) lowered I and raised II. Succinic acid (0.01 M, 3-20 ml) caused lowering of I and raising of II; with the adding of the Knop solution II was lowered, while I showed no changes. $MnCl_2$ (0.1 M, 5-20 ml) and MnO_2 (5-40 ml of the saturated solution) lowered I but raised II. When added to the sand enriched with the Knop solution, these substances lowered II somewhat. The introduction in place of microelements or succinic acid of the equivalent quantity of K in the form of KCl brought about a much more significant lowering of I and II. Bibliography. 15 references.

Card 2/2

I-2

BULGARIA / Plant Physiology. Respiration and Metabolism.

Abs Jour : Ref Zhur - Biol., No 17, 1958, No 77314

Author : Stoyanov, Zharko.
Inst : Not given
Title : Concerning Several Biochemical Indicators of the Activity

BULGARIA/Cultivated Plants - Grains.

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29677

Author : Stoyanov, Zh.

Inst : Institute for Forestry, Bulgarian Academy of Sciences.

Title : The Resistance of Several Wheat Species and Varieties to Soil Dryness.

Orig Pub : Izv. In-ta za gorata. B"lg. AN, 1957, 2, 511-517 (bolg.; rez. russk., nem.)

Abstract : The method and technique of experimentation are described in the study of the new indicator of plant drought resistance and degree of soil moisture at which plants perish through drought. The degree of soil moisture was not directly determined but rather by the distribution of wheat species and varieties dying off at an early age (20 days from germination) while growing in the same

Card 1/2

STOYANOV, Z.G.

Vitamin C content during pregnancy; resume of a condidate dissertation. Akush. i gin. 34 no.1:99-100 Ja-F '58. (MIRA 11:4)

1. Iz kliniki akusherstva i ginekologii imeni "Maychin dom", Sofiya (dir. - professor d-r Toshev)
(PREGNANCY) (ASCORBIC ACID)

STOYANOV, Z.M. (Odessa)

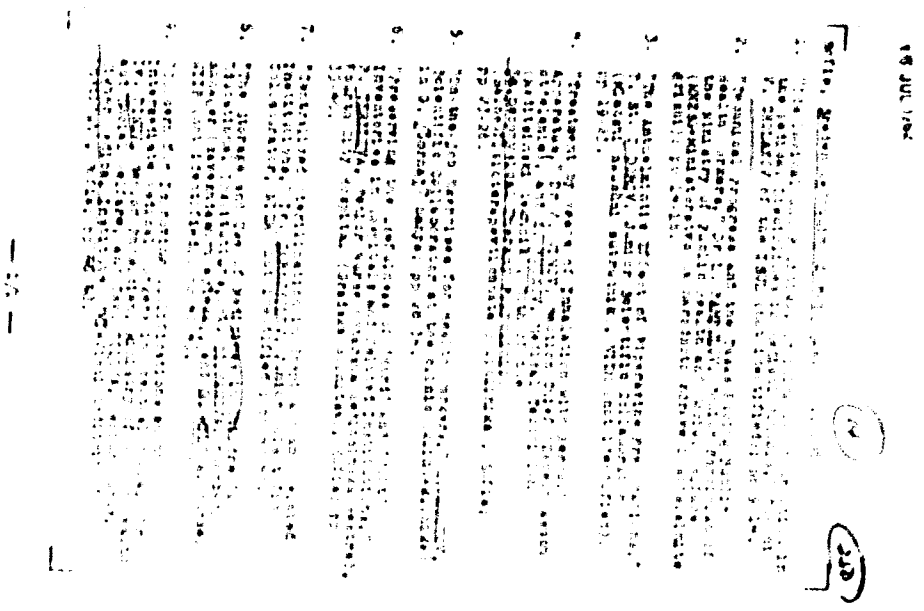
Watertight cast iron joints of steel pipes. Stroi.truboprov. 10 no.10:24 O '65.

(MIRA 18:10)

1. Brigadir montazhnikov uchastka No.3 Stroitel'no-montazhnogo upravleniya No.10 tresta Ukrgazneftestroy (for Stoyanov).

STOYANOV, Zh.V. (Sofiya, Bolgariya)

Ventilator construction in Bulgaria. Vod. i san. tekh. no.7: 29-30 Jl '61. (MIRA 14:7)
(Bulgaria—Fans, Mechanical)



11H

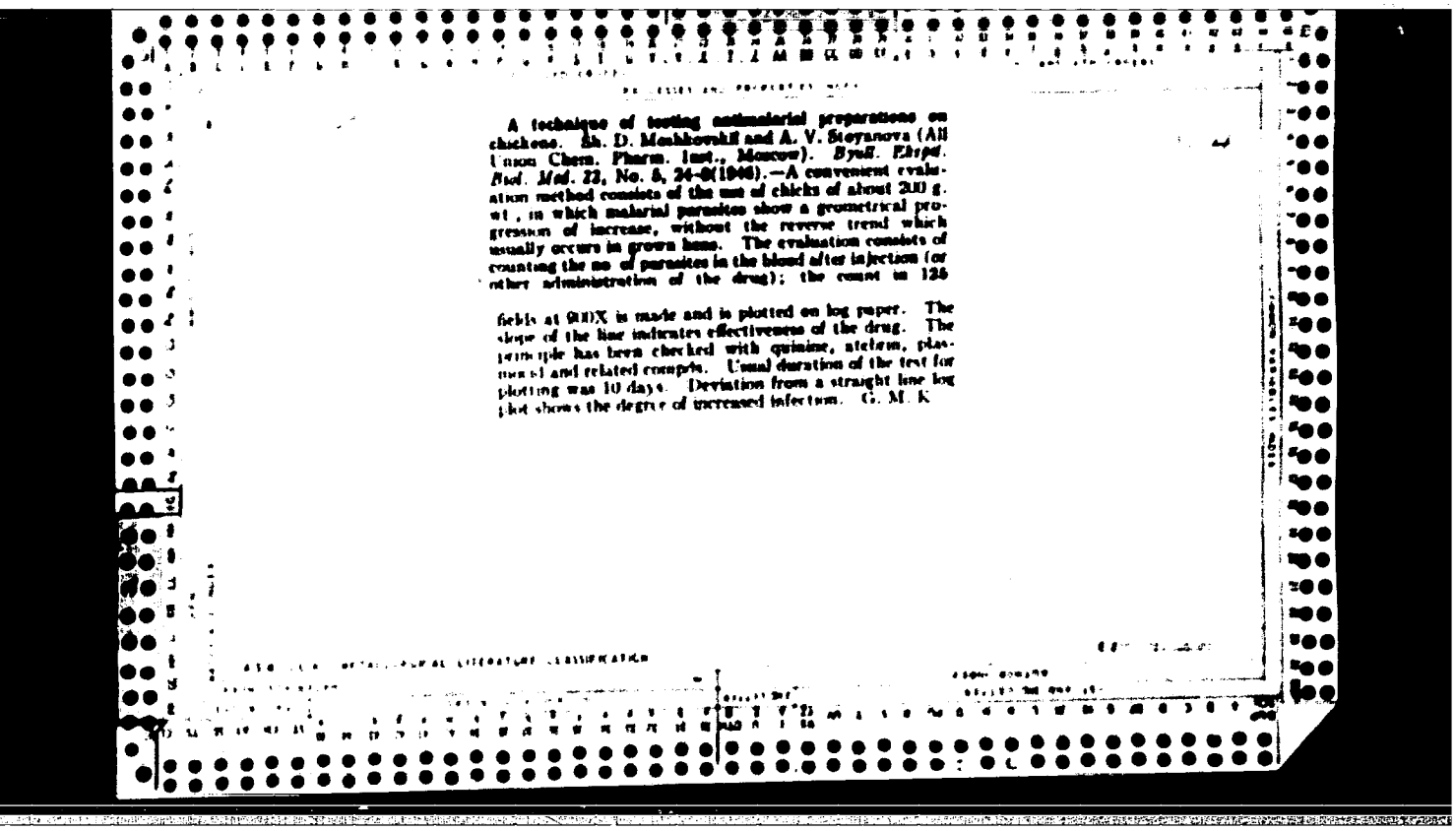
The dependence of the chemotherapeutic effect on the course of the infectious process. I. The dependence of the efficacy of chemotherapeutic intervention on the length of the preceding period of interaction between the macro- and microorganisms. S. D. Moshkovskii and A. A. [illegible]. *Bull. biol. med. exptl. U.R.S.S.* [illegible] (in English). Mice were infected with quantities of trypanosomes varying from [illegible] to [illegible]. *Trypanosoma equiperdum* was chosen because its multiplication in the blood stream could be fairly easily followed. At the point at which approx. equal nos. of trypanosomes were present in the blood an equal dose of neoarsphenamine (I) was given to all the animals. In all cases the chemotherapeutic effect of I was the greatest in those cases in which the interval between the infection and administration of I was longest; this indicates that immunological defense processes had developed in those animals with a longer infection period. S. A. Karjala

11 R

The dependence of the effect of chemotherapeutic interference on the course of the infectious process. II. The influence of the mode of infection upon the effectiveness of chemotherapeutic interference in experimental trypanosomiasis of mice. S. D. Moshkovskii and A. V. Suyanova. *Bull. biol. med. exptl. U. R. S. S.* 9, 529-31(1940)(in English); cf. *C. A.* 35, 6670[4].—Mice were infected by the subcutaneous and intraperitoneal injection of *Trypanosoma equiperdum* to det. whether the mode of injection had any influence on the course of the disease. At the point at which similar amts. of trypanosomes were present in the blood neoarsphenamine was injected into the animal. In all cases the chemotherapeutic effect was greater in the mice which had been infected intraperitoneally.

S. A. Karjala

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



A technique of testing antimalarial preparations on chickens. Sh. D. Mashkovskii and A. V. Stoyanova (All Union Chem. Pharm. Inst., Moscow). *Byull. Eksper. Biol. Med.* 22, No. 5, 24-6(1946).—A convenient evaluation method consists of the use of chicks of about 200 g. wt., in which malarial parasites show a geometrical progression of increase, without the reverse trend which usually occurs in grown hens. The evaluation consists of counting the no. of parasites in the blood after injection (or other administration of the drug); the count in 126 fields at 900X is made and is plotted on log paper. The slope of the line indicates effectiveness of the drug. The principle has been checked with quinine, atebrin, plasmoquil and related compds. Usual duration of the test for plotting was 10 days. Deviation from a straight line log plot shows the degree of increased infection. G. M. K

[illegible], A. V.

USSR/Medicine - Chemotherapy Mar 19[illegible]
Sulfanilimide, Paraminobenzoic Acid
Trypanosoma Equiperdum

"Concerning the Inhibitory Action of the Paraminobenzoic Acid and Sulfanilimide upon the Chemotherapeutic Action of the Aromatic Derivatives of Arsenic," Sh. D. Moshkovsky and A. V. Stoyanova, [illegible] pp

"[illegible] Vol [illegible], No [illegible], p [illegible]

Effect upon Trypanosoma equiperdum in mice

[illegible]

STOYANOVA, A.V.; NOVITSKAYA, N.A.

Derivatives of 4-aminoquinoline in experimental chemotherapy. Med. paraz. i parazit.bol.supplement to no.1:32 '57. (MIRA 11:1)

1. Iz khimioterapevticheskogo otdela Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni S.Ordzhonikidze.
(QUINOLINE) (MALARIA)

Stoyanova D.

BULGARIA / Chemical Technology. Chemical Products and H
Their Application. Food Industry.

Abs Jour: Ref Zhur-Khimiya, No 9, 1959, 33135.

Author : Stoyanova, D., B''chvarov, St.
Inst : Not given.
Title : Onions of Various Sorts, and the Dry Product Yield.

Orig Pub: Khranit. prom-st, 1958, 7, No 4, 21-23.

Abstract: Onions of various sorts from different regions of Bulgaria are described. The results of the study of certain sorts are submitted. The yield after cleaning amounted to 8.7-14.4%; 1 kg. of dried onions was obtained from 5.57 kg. of raw onions of the Lvaskov sort and from 7.55 kg. of onions of the Samovod sort. Various sorts of

Card 1/2

264

ACC NR: AP6[illegible] SOURCE CODE: UR/0120/66/000/005/0060/0060

AUTHOR: Gapotchenko, A. G.; Govorkov, B. B.; Denisov, G. P.; Kotel'nikov, N. G.; Stoyanova, D. A.

ORG: Physics Institute of the Academy of Sciences, SSSR, Moscow (Fizicheskiy institut AN SSSR, Moskva)

TITLE: A spark chamber as a detector of high-energy electron and photo showers

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1966, 60-66

TOPIC TAGS: spark camera, spark chamber, electron energy, ELECTRON DETECTION

ABSTRACT: Characteristics of a multi-plate spark chamber used as a detector of γ-quanta and electron showers whose energies range between 50 and 200 Mev are studied. The total number of sparks formed in the camera while it is registering showers is proportional to the energy of primary particles; the average number of sparks is linearly related to the primary particle energy. Fluctuations in the total number of sparks varies according to Poisson's law. A formula relating the thickness of the chamber electrodes with the camera resolution is derived. Data on spark distribution along the shower axis and on the effectiveness of the camera in registering γ-quanta are given. Orig. art. has: 8 figures.

SUB CODE: 20, 14/ SUBM DATE: 09Nov65/ ORIG REF: 003/ OTH REF: 006

Card 1/1 UDC: 539.1.073

ACC NR: AP6034243 (N) SOURCE CODE: UR/0120/66/000/005/0225/0226

AUTHOR: Denisov, S. P.; Stoyanova, D. A.

ORG: Institute of High Energy Physics (Institut fiziki vysokikh energiy)

TITLE: Nanosecond coincidence circuit utilizing a secondary emission tube for the control of spark chambers

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1966, 225-226

TOPIC TAGS: coincidence circuit, spark chamber, scintillation detector, photomultiplier

ABSTRACT: A coincidence circuit based on a secondary emission tube with input signals applied to the control and the screen grids is described. A special feature of this scheme is the use of positive feedback between the plate and the cathode, which results in resolution time interval of approximately 3 nanoseconds, and an output pulse height of 100 v across a 300 ohm load. The biasing of the tube is arranged such that no output is generated unless two signals greater than 5 volts appear simultaneously on both grids. Single pulses up to 50 v produce no output. The positive feedback causes an avalanche conduction in the tube at the time of pulse coincidence. The input is provided by two scintillation detectors. The system is simple, reliable and stable in operation. The authors thank P. N. Shareyko for useful consultation. Orig. art. has: 3 figures.

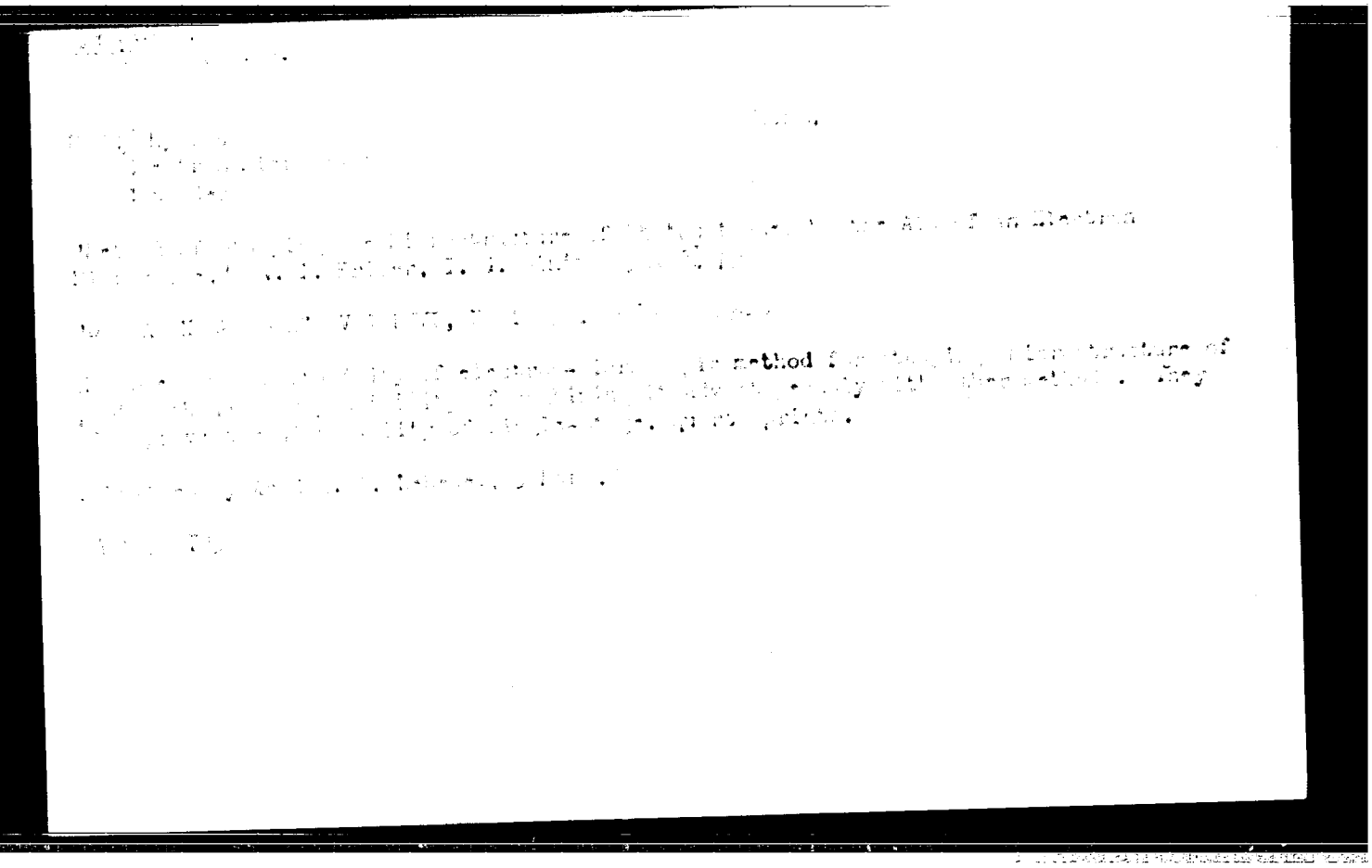
SUB CODE: 09/ SUBM DATE: 05Nov65/ ORIG REF: 001 18/

Card 1/1 UDC: 539.1.075:621.374.36

ACC NR: AP7007082

ficant amount of energy in the atmosphere. Presence of concentrated groups of high-energy muons ($E \geq 10^{12}$ ev) at a depth of 40m cannot be explained from the standpoint of theoretical concepts concerning the development of broad atmospheric showers that have hitherto been advanced. Orig. art. has: 4 figures. [JPRS: 39,658]

Card 2/2



CA

23

Electronographic investigation of the native cellulose. ramie. A. L. Zaides and I. G. Smitskaya. *Doklady Akad Nauk S.S.S.R.* 80, 213-16(1951).—The electron-diffraction pattern was detd. for fine fibers of untreated ramie. The interplanar distances are the same as those detd. by x-ray diffraction; the identity periods along the fiber axis are 10.25 and 10.3 Å. The presence of ordered regions with microcryst. structure is confirmed by the validity of the wave length dependence $B_x L_x / B_e L_e = \lambda_x / \lambda_e \cos \theta_e / 2$ of the angular half widths B in x-ray (subscript x) and in electron diffraction (subscript e), L being the distance from the perpen. to the diffraction line on the plate. For the interference max. formed at an angle of 45°, $B_x = 1°$, $B_e = 0.61$ mm; hence, the left-hand member of the equation = 41 and the right-hand member = 39. N. Thon

STOYANOVA-SINITSKAYA, I.G.

ZAYDES, A.L.; STOYANOVA-SINITSKAYA, I.G.; FRUMKIN, A.N., akademik.

Ordered structure of films of hydrated cellulose. Dokl.AN SSSR 92 no.3: 601-602b S '53. (MLRA 6:9)

1. Akademiya nauk SSSR (for Frumkin). 2. TSentral'nyy nauchno-issledovatel'skiy institut kozhevenno-obuvnoy promyshlennosti (for Zaydes and Stoyanova-Sinitskaya). (Cellulose)

STOYANOVA, I.G.

USSR.

537.533.35

5441. Investigation of the mechanism of image formation in the electron microscope. I. G. STOYANOVA AND A. I. FROLOV. Dokl. Akad. Nauk SSSR, 94, No. 1, 459-62 (1954) In Russian.

Measurements were made of the ratio of electrons focused on to a photographic plate to the number incident on the specimen—amorphous quartz evaporated on to collodion—as a function of specimen thickness, electron voltage and lens aperture; results are given graphically for bright field and dark field illumination. Measurements were also made by the method of Abstr. 311 (1951). Contrast curves are given, calculated from the experimental results; these show, inter alia, that for very thin specimens dark field illumination is preferable. E. C. E. [illegible]

STOYANOVA, I.G.

The darkfield method in electron microscopy. Biofizika 1 no.4: 362-369 '56. (MLRA 9:9)
(ELECTRON MICROSCOPY)

Stoyanova, I. G.

B-5

USSR/Physical Chemistry. Crystals.

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14510

Author : I. G. Stoyanova
Inst :
Title : Electronmicroscopic Studies of Thin Films of Antimony by the Dark-Field Method

Orig Pub: Dokl. AN SSSR, 1956, 106, No 3, 437-439

Abstract: The conditions of preparation of a dark-field electronmicroscopic image were examined at an inclination of the illuminating system and the displacement of the aperture diaphragm and it was shown that intensive and sharply defined structure details may be observed only in crystallic objects. This property of dark-field representation is used for the determination of the nature of the structure of a thin film of Sb ($0.5\gamma/cm^2$) evaporated on a collodion base. It was not possible to determine the structure of individual particles on the light-field image since the presence of light spots on

Card 1/2

ZAYDES, A.L.; STOYANOVA, I.G.

Certain features in electron diffraction investigations of high-Molecular compounds. Dokl.AN SSSR 107 no.5:711-714 Ap '56.
(MLRA 9:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut koshevenno-obuvnoy promyshlennosti. Predstavleno akademikom N.V. Belovym.
(Electronography) (High molecular weight compounds)

STOYANOVA, I. G.

3

Distribution of the electron density at the electron-

[illegible]YAROVA, [illegible] and [illegible], A. A.
Institute of Electronic Optics of the State Committee for Radio Electronics and the Central Research Institute of the Leather Industry, Moscow.

X

"Electron Diffraction Investigations on High Polymers and Their Peculiarities."

report presented at 4th. Intl. Conference on Electron Microscopy, Berlin GFR, 1[illegible] - 17 Sep 195[illegible].

[illegible]YAKOVA, I. G.
Institute of Electronic Optics of the State Committee of Radio Electronics, Moscow.

"A Chamber for the Investigation of Objects with a Gas Environment."

report presented at 4th. Intl. Conference on Electron Microscopy, Berlin GFR, 10 - 17 Sep 1958.

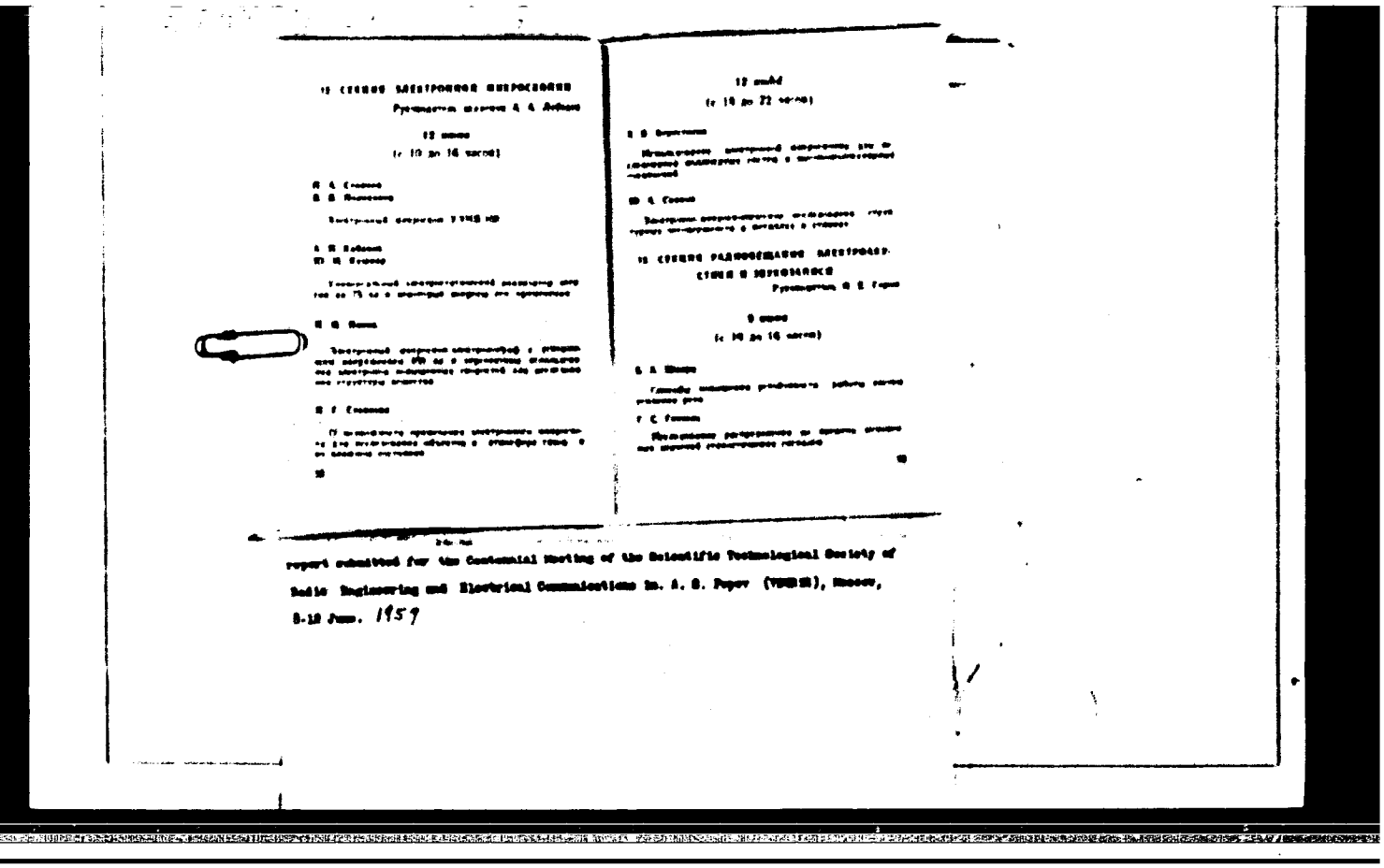
AUTHOR: Stoyanova, I. G., 20-2-34/60

TITLE: The Electron Microscope Investigation of Objects in a Gas Medium (Elektronnomikroskopicheskoye issledovaniye ob"yektov v gazovoy srede)

PERIODICAL: Doklady AN SSSR, 1958, Vol. 118, Nr 2, pp. 325-327 (USSR)

ABSTRACT: First a short reference is made to previous works dealing with the same subject. The experiments performed by the author, made it possible to construct an open micro chamber, which meets the demands stipulated here. In the micro chamber (in distinction from the ones) built so far the gas pressure can be changed from 0 to 700 torr, without changing the method of microscope operation. Also the observation of the image need not be interrupted. The chamber as well sealed up hermetically. First the author reports on the influence of the gas and of the protective layers on the quality of the electron microscope image. The protective covers and the gas above the objects increase the total thickness of the layer, which must be covered by the electrons, and according to this decrease the resolution because of the chromatic aberration. In the case, which is discussed here, a reso-

Card 1/3



report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNIIRE), Moscow, 8-10 June. 1959

STOYANOVA, I.G.; MIKHAYLOVSKIY, G.A.

Method and apparatus for electron microscope study of moist objects.
Biofizika 4 no. 4:843-849 '59. (MIRA 14:4)
(ELECTRON MICROSCOPY)

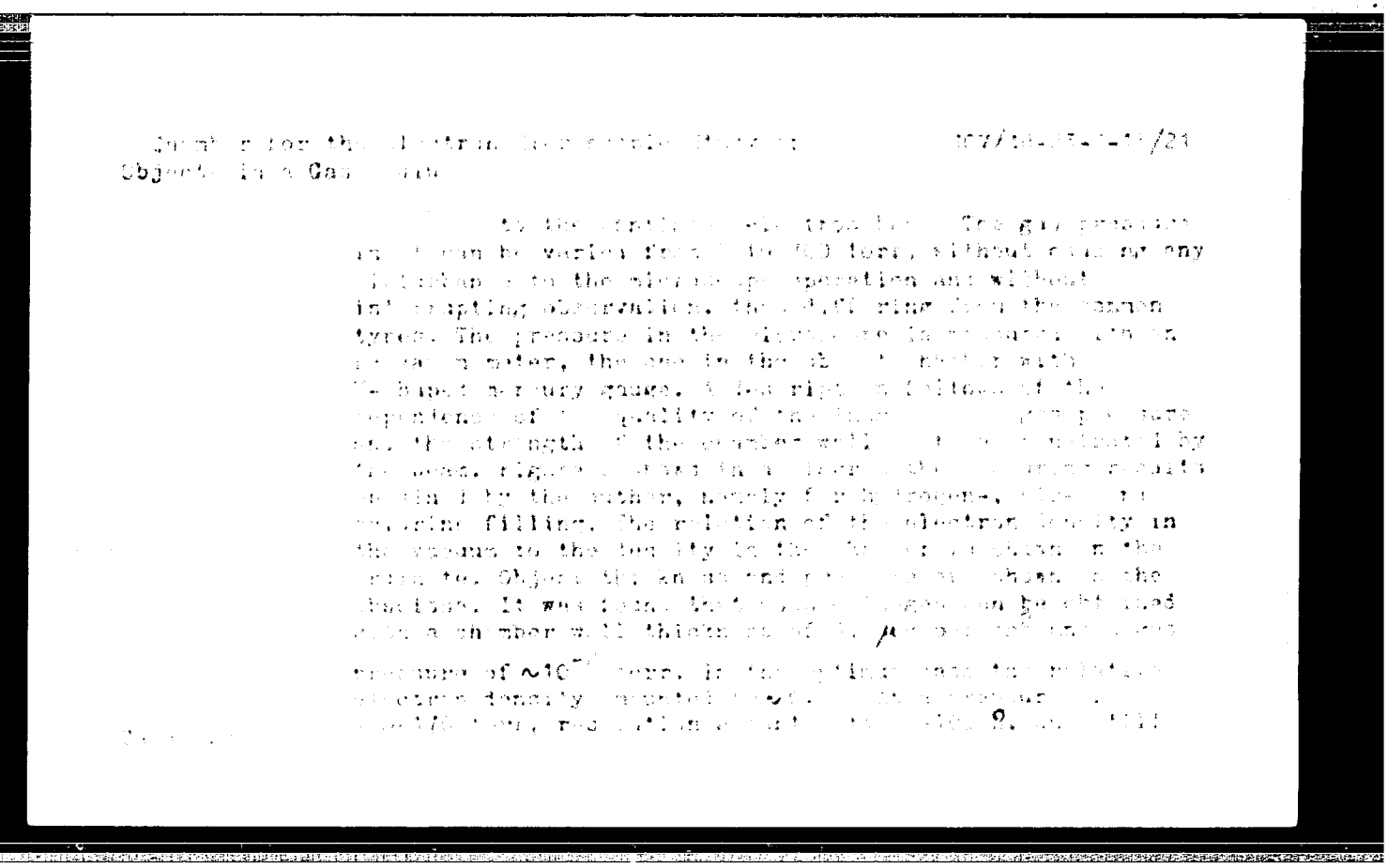
AUTHOR: Sto[illegible]ov, I. S. [illegible]

TITLE: A Chamber for the Electron [illegible] of Objects in a Gas Medium (Kamera dlya elektronno[illegible] issledovaniya ob"yektov v gazovoy [illegible])

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1959, Vol 23, Nr 4, pp 190-195 (USSR)

ABSTRACT: In common electron microscopes the objects to be investigated are principally exposed to two detrimental effects. The first is the vacuum produced in the microscope interior that specially damages biological preparations, and the second is the immediate influence of the electron beam upon the object. An object chamber was therefore built, similar to that by Abrams (Ref 2) in order to make possible investigations with biological preparations, with special respect to live-cultures. The following points were considered during construction: a) great mechanical strength. b) good hermetic sealing. c) a sufficiently thin and solid construction of the chamber zone, where the object is to be hit by the beam. [illegible] [illegible]illizable. [illegible] must be resistant

Card 1/3



[redacted]

AUTHORS: Stoyanova, I. G., Kabanov, A. N. SOV/48-23-6-12/28

TITLE: Investigation of the Energy Losses of Electrons in Thin Gas Layers (Issledovaniye poter' energii elektronov v tonkikh sloyakh gazov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 6, pp 719-721 (USSR)

ABSTRACT: The dispersion occurring during the investigation of objects in gases causes a decrease in the contrast of resolution etc. For the purpose of measuring the electron energy losses in thin layers of gas, the authors constructed an experimental unit which is similar to an electronic microscope, in which the gas to be investigated is enclosed in an object chamber, and in which gas pressure may be varied from 5.10^{-3} to 760 torr. The electron beam is diaphragmed by means of a slotted diaphragm to a thin plane beam, and is recorded on a photographic plate by means of an analyzer lense. The photometrization of the electron energy spectrum is carried out by using the calibration standard. Nine pictures are shown of the results of measurements obtained (Figs 3, 4, 5) : the energy spectra of air at

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5.10^{-3}, 120 and 340 torr, of He, Ar, H_2S and H_2 at 150 torr and of O_2 at 20 and 60 torr. The intensity of these spectra grows with increasing pressure. The results obtained distinctly show the dependence of energy loss on the ionization potential. There are 5 figures and 4 Soviet references.

AUTHORS: Stoyanova, I. G., Belavtseva, Ye. K. SOV/48-23-6-21/28

TITLE: An Investigation of the Thermal Action of Electrons Upon the Object in an Electron Microscope (Issledovaniye termicheskogo deystviya elektronov na ob"yekt v elektronnom mikroskope)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 6, pp 754-757 (USSR)

ABSTRACT: The passage of electrons through the object heated the latter, and two methods of estimating the temperature of the object are given: a) Temperature determination according to the variation of the electron-microscopic image of some substances in the case of the liquefaction or evaporation (Ref 1), and b) according to the variation of its diffraction picture in the case of the thermal action of an electron beam. These variations occur only at certain temperatures. In the present paper a method is described, which permits the immediate determination of any temperature variation of the object. A special microthermocouple is used for this case, which is described in detail. The characteristic line of this microthermocouple does not differ from that of a normal one, and the temperature of the object is shown by four diagrams in dependence on

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a) the thickness of the object, b) amperage, c) the influence exercised by an electrolytic network. Finally, the influence exercised by the diaphragm is investigated and it was found that if such a diagram is used with a radius of 40 μ, the temperature of the object in the case of a 30000-fold enlargement amounts to 50° C, and that, without such a diaphragm, it amounts to 200° C with 10000-fold enlargement. There are 6 figures and 3 references.

AUTHORS: Stoyanova, I. G., Zaydes, A. L. SOV/48-23-6-22/28

TITLE: Some Particular Features of the Investigation of High-molecular Compounds by Means of Electrons (Nekotoryye osobennosti issledovaniya vysokomolekulyarnykh soyedineniy pri pomoshchi elektronov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 6, pp 758-761 (USSR)

ABSTRACT: In a number of cases high-molecular compounds form structures which can be investigated by means of electron refraction pictures. Several fundamental conditions for the obtaining of electron refraction pictures are enumerated. Firstly, a high vacuum is necessary. As numerous objects contain water which would evaporate in the high vacuum and would thus disturb the structure of the object, the latter must be investigated in media with a sufficiently high steam pressure. Further, the high-molecular compounds always have a chain structure which has deformations depending upon the degree of flexibility. These deformations cause an increase of the angle of dispersion, and, in the further course, a strengthening of the background in the diffraction picture. The ionizing effect of irradiation

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Some Particular Features of the Investigation of High-molecular Compounds by Means of Electrons SOV/48-23-6-22/29

in the object is investigated on the basis of the changes caused, and a similar method is employed in the case of the thermal influence of irradiation. The authors investigated the influence exercised by the ionizing and thermal effect of irradiation upon the object. Collagen showed a complete transition to amorphous structure after 20-30 seconds. Reference is then made to some earlier papers in which it had been shown that the influence upon high-molecular compounds originating from X-ray and electronic irradiation conveys the state sol into the state gel. Resistance against the destructive influence of irradiation depends on the structure and the chemical state of the object. The papers by Khenokh and Lyginskaya on amino acid, and papers by the authors on the same compound are briefly mentioned, and, in conclusion, the stabilization of the structure of aqueous compounds is investigated. There are 2 figures and 13 references, 6 of which are Soviet.

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AUTHORS: Stoyanova, I. G., Nekrasova, T. A., Biryuzova, V. I. S/020/60/131/01/054/060 B011/B009

TITLE: Investigation of the Effect of Radiation on Bacteria Cells in the Humid Microchamber of the Electron Microscope

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 131, Nr 1, pp 195 - 198 (USSR)

ABSTRACT: Since the object viewed in the electron microscope is irradiated with electrons, the authors were able to observe directly the effect of the radiation upon cells of Bacillus mycoides and B. mesentericus in the humid microchamber. The authors divide the radiation dosages largely into three groups: 1. Doses below 10^6 to 5 10^6 r, by which no noticeable morphological damage is done to the cells; 2. doses between 10^7 and 10^8 r, which cause visible damage; and 3. doses above 10^9 r, with which the cell polymerizes; it is "fixed", so to speak, by the electron beam. The authors used exposures from 5 to 10 seconds. The object was irradiated in its original state while the photograph was taken, and then dried or investigated without drying. Dosage group 2: Figure 1 a shows a group of cells of B. mycoides photographed in the humid state. Figure 1 b shows the dried preparation. Dosage

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group 2: Figure 2 shows the effect upon B mycoides and B mesentericus. Figure 3 shows the changes caused in B mycoides by irradiation with 10^8 r, figure 4 changes in B coli by irradiation with 10^{10} and 10^7 r. The authors state in conclusion that by direct observation of the effect of the ionizing radiation in the electron microscope upon individual bacteria cells (not upon a culture as a whole) they found the following changes to take place when the dosage was raised from 10^6 to 10^{10} r: At first no visible morphological changes occur in the cells. Some processes which had gone on before the irradiation continue to take place. Then, however, visible morphological damage is caused: the cell membrane and flagellum are destroyed, the protoplast changes considerably, and eventually the cell is polymerized. The authors thank Yu. M. Kushnir and M. N. Meisel', Professor, for discussing the results. There are 4 figures and 5 references, 2 of which are Soviet.

PRESENTED: October 15, 1959, by A. I. Oparin, Academician
SUBMITTED: October 15, 1959
Card 2/2

STOYANOVA, I.G.; NEKRASOVA, T.A.

Electron microscopic study of living micro-organisms by the use of the gas microchamber. Dokl. AN SSSR 134 no.2:467-470 S '60. (MIRA 13:9)

1. Predstavleno akad. A.I.Oparinym.
(ELECTRON MICROSCOPY) (BACTERIA)

ZAYDEL', A.L.; STEYANOVA, I.G.

Electron diffraction method of determining the structure of cellulose. Vysokom. soed. 3 no.2:321 F '61. (MIRA 14:5)

1. Tsentral'nyy nauchno-issledovatel'skiy institut kozhevenno-obuvnoy promyshlennosti.
(Cellulose)

S/048/61/025/006/002/010
B117/B212

AUTHOR: Stoyanova, I. G.

TITLE: Method of the gas microchamber in electron microscopy

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 6, 1961, 701 - 706

TEXT: The present paper has been presented at the 4th All-Union Conference on Electron Microscopy, held in Leningrad from October 24 to 29, 1960. It reports on the method of the gas microchamber which has been developed in recent years (Ref. 1: Stoyanova I. G., Zaytsev P. V., Bezlepkin S. V., Avt. svid. № 119505 ot 1957 g.; Stoyanova I. G., Likhayevskiy G. A., Biofizika, 4, 465 (1959). Living cells can be examined under an electron microscope of the type УЭМБ-100 (UEMB-100) by using a special objective lens and an object microchamber which replaces the standard chamber. The object is kept in a moist state by adjusting the pressure of the gas-water - vapor medium such that evaporation cannot take place. The space where the object is located, is limited by two foils 1 and 2 (Fig. 1) on the openings 3 and 4 which prevent the gas from entering the tube. The

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Method of the gas microchamber...

S/048/61/025/006/002/010
B117/B212

connecting gas channel 5 is located inside the object slide in the gas microchamber, and on one side it is connected with the microchamber and on the other side with the commutation system. The latter is used to regulate the gas composition in the microchamber and also to vary the gas pressure from 760 to 10^{-2} mm Hg. The opening 6 which has a diameter of 10 - 20μ and is located very close to the object, protects the preparation (except the observed section) from the effect of the electron beam. The effect of the gas and of the other foil of the microchamber on the quality of the image and also the effect of the electron beam on the object itself during investigation in a gas medium has been studied. The author aimed at finding a way to protect living cells from the electron beam. The extent of the radiation damage depends on the object properties, the current density at the object, the medium, etc. The distribution of the electron density was used to estimate the contrasts of an electron-microscopic image of an object observed in the gas microchamber. The distribution change of the electron density on the image was determined by methods developed earlier (Ref. 5: Stoyanova I. G., Frizer A. I., Dokl. SSSR, 94, 259 (1954)). This was done in the presence of two foils on the openings and during the filling of

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Method of the gas microchamber...

gas into the object chamber. The resolution in the gas microchamber was experimentally determined to be 50 Å. It was possible to find optimum observation conditions under which the micro-organisms will remain alive if irradiated once: 1) The probability of damage was diminished by lowering the current density at the object as far as the sensitivity of the photographic plate allowed it ($j_{obj} = 10^{-5}$ a cm^{-2}; $j_{photoplate} = 10^{-12}$ a cm^{-2}; t= 10 sec). 2) While the device was adjusted, the whole preparation, except a 10 - 20μ section used for focusing, was shielded. The section to be investigated was only irradiated while taking the picture. The radiation dose obtained from the preparation could thus be decreased. 3) An ionized gas layer on top of the object prevented the destruction of the preparation by field emission. 4) The sensitivity of micro-organism against the effect of ionizing radiation could be decreased by decreasing the oxygen content of the medium. 5) Removing the excessive moisture diminished the effect of ionizing radiation. 6) Irradiation was done in the presence of some chemical substances which increase the radiation stability of micro-organisms. 7) In order to delay the expansion of damages, the temperature of the

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Method of the gas microchamber...

preparation was lowered during time. 8) The thermal effect of electrons on the preparation was decreased by lowering the current density at the object down to 10^{-4} a cm^{-2} and limiting the irradiated area to 10 - 20 μ. The temperature rise of the object was not more than 1 - 2°. If above conditions are fulfilled with the exception of 6 and 7, the objects, even living micro-organisms, will suffer no noticable damage if irradiated once. This widens the application of the electron microscope substantially. The following observations have become possible: direct observation of chemical reactions between solid, liquid, and gaseous phases (Ref. 2: Stoyanova I. G., Dokl. AN SSSR, 118, 575 (1958)); investigation of living micro-organisms and of the dynamics of morphological changes in them during their development (Ref. 3: Stoyanova I. G., Nekrasova T. A., Dokl. AN SSSR, 134, 127 (1960)); investigation of changes in preparations effected by various factors, such as ionizing radiation (Ref. 4: Stoyanova I. G., Nekrasova T. A., Zaydes A. L., Dokl. AN SSSR, 130, 1366 (1960); Stoyanova I. G., Nekrasova T. A., Biryuzova V. I., Dokl. An SSSR, 131, 195 (1960)) etc. The possibilities of the new method are not yet exhausted. Efforts to perfect this method and the construction of the microscope will be continued. M. Ye. Kuperman and T. A. Nekrasova took part in the investigation of H_2O_4 vapor.

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S/048/61/025/006/002/010
B117/B212

Method of the gas microchamber...

There are 5 figures and 12 references: 9 Soviet-bloc and 3 non-Soviet-bloc.

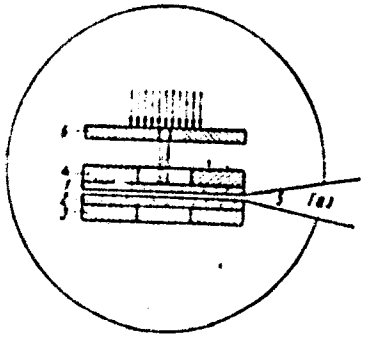

Fig. 1

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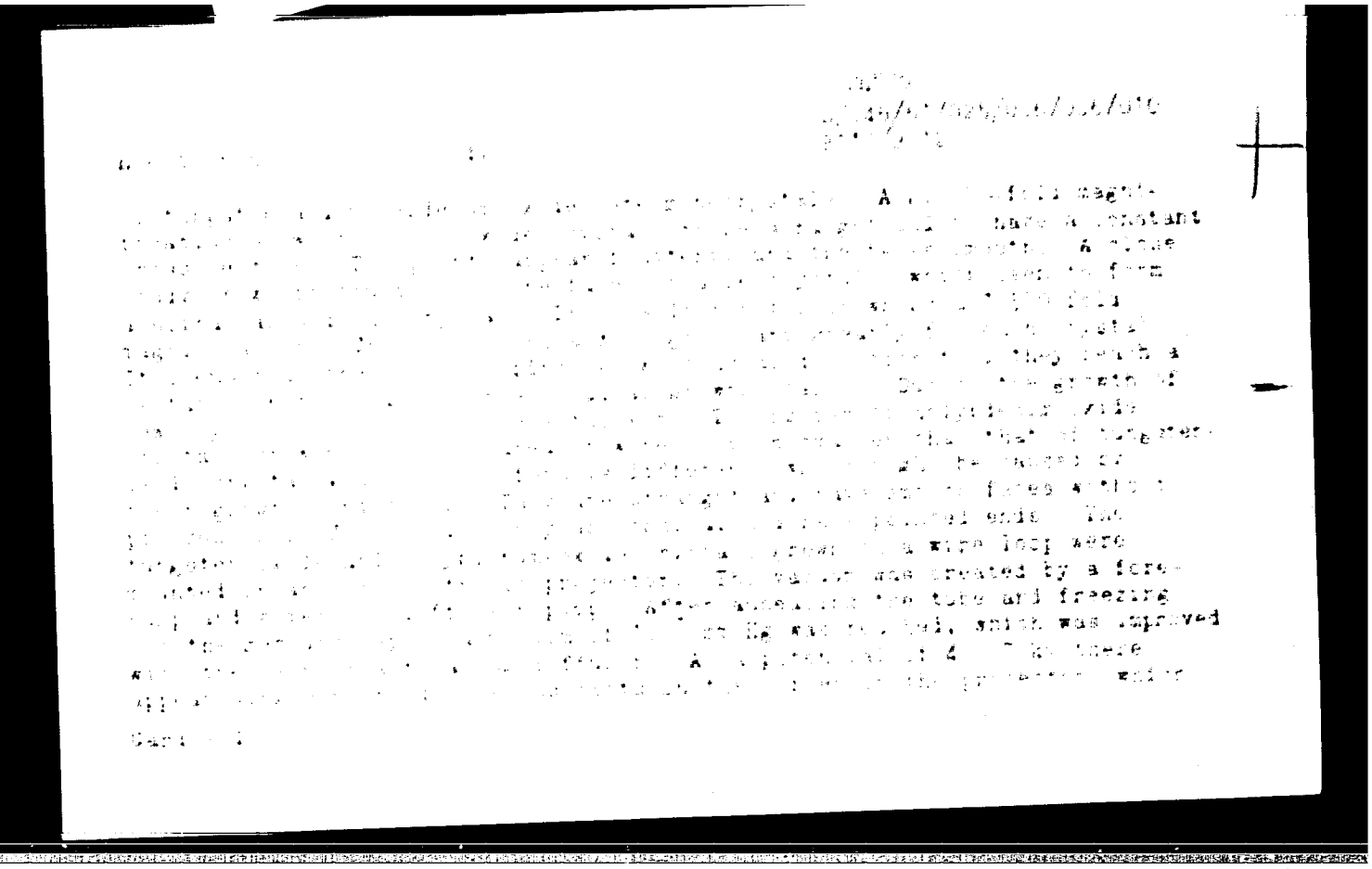

correspond to the emission of the various thread-like crystals. The image might change when the potential is raised: The images of single thread-like crystals (of smaller diameter) disappear, while the images of others appear. The crystals resist a lasting heating to red heat of the wire. Due to the heating of the crystals, the same emission current will be observed with a potential increase. Some emission images disappear and the screen luminesces evenly. It is assumed that the ends are rounded off during heating and the images of some crystals overlap. Quite often one can see images on the screen, which consist of four individual luminous spots. Sometimes it can be observed how the image is rotating by 90° around its axis. This might take place under the effect of ion bombardment of residual gases. Very seldom it was observed that a sudden rotation took place when increasing the potential, with a subsequent disappearance of the image. It is possible that these phenomena are related to the occurrence of a screw crystal emission and to a stripping of these crystals by the field. Investigations of the thread-like crystals after the test showed that their ends become pointed due to ion bombardment. The ion bombardment is the main cause for the instability of cold cathodes (Ref. 5: Elinson M. I., Vasil'yev G. V., Avtoelektronnaya emissiya. Fizmatgiz, M., 1958). A fairly stable

current can be expected from crystals having the form of straight needles of a small diameter. Studies of the effect of ion bombardment on the emission properties of thread-like crystals showed that the emission current increases by a multiple and reaches up to 300 μa. The stability of the emission current also increases. At the same time, more four-leaf images can be observed on the screen. For a certain "point brush", the conditions furnishing constant emission currents are chosen experimentally. There are 7 figures and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gos. universiteta im. M.V. Lomonosova (Division of Physics of Moscow State University imeni M. V. Lomonosov)

S/020/61/141/004/017/019
B103/B101

AUTHORS: Stoyanova, I. G., and Pilyankevich, A. N.

TITLE: Choice of accelerating voltage in the electron microscope for studying processes in living cells

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 4, 1961, 973-975

TEXT: This paper deals with the determination of the accelerating voltage at which processes in living cells can be observed on a submicroscopic level (20 - 50 Å). The contrast in images of thin objects is uniquely defined by the difference $\Delta(\varrho d)$ of the mass thicknesses of neighboring sections of the object: the greater $\Delta(\varrho d)$, the higher the contrast (ϱ = specific weight). Under given conditions a definite quantity of substance $\Delta(\varrho d)$ exists which guarantees a minimum contrast which can be photographically recorded with sufficient reliability ($K_{min} = 0.1$). Since ϱ is approximately constant in biological objects, one may pass from the minimum quantity of the substance $\Delta(\varrho d) = \varrho \Delta d$ to the minimum thickness Δd. This thickness is characterized by the minimum contrast curves $(MCC)\Delta d_{c=0.1} = f(U)$. These curves prove that a particle thinner than Δd

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will remain invisible at a given accelerating voltage owing to an insufficient contrast (Fig. 1). The MCC were calculated for substances consisting of carbon atoms with densities of $\rho = 1$ g/cm^3 (curve 1) and $\rho = 2$ g/cm^3 (2) on the supposition that the object to be examined is thin enough and that the electrons passing this object are scattered but once. The calculation was made for $\alpha_{lim} = 5 \cdot 10^{-3}$ radian. The cross sections of the scattered electrons determining the contrast of the image are very close to each other for carbon, oxygen, and nitrogen so that the calculated curves can be used for estimating the Δd_{min} of many biological objects. The experimental values of G. Lippert (IV International Congress on Electron Microscopy 1958, 1960, p. 288) are marked by circles in Fig. 1. It has been found that particles of less than 500 Å thickness are not visible when the accelerating voltage exceeds 200 kv. The chromatic effect which is usually neglected is due to the loss of electron energy in the substance. The blurred ring resulting from chromatic aberration is, however, greater than the limit resolving power of the apparatus (10 Å) and depends on both the accelerating voltage and the thickness of the object. When living objects are examined in a gas chamber, the electrons are scattered from the two protective films of the chamber, from the gas layer and from

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the living cell. In this case, the effect of the chromatic defect is important because of the losses ΔU in electron energy in the substance (curves 3 - 5). It is evident from the figure that the image quality deteriorates on reduction of the accelerating voltage owing to the increasing chromatic defect. Owing to the chromatic defect the examination of a particle of less than 100 Å is even made impossible, although the contrast of the image of 10 Å particles (20 kv) would be sufficient in itself. When the accelerating voltage is increased, the chromatic defect decreases rapidly and does not prevent the examination of small particles; but now, these are invisible owing to the insufficient contrast. Thus, beginning from a certain value of the accelerating voltage which is established for a given thickness, the image quality is limited no longer by the parameters of the electron optical system but by the properties of the object. For biological objects with densities between $\rho = 1$ g/cm^3 and $\rho = 2$ g/cm^3 an optimum range of accelerating voltage (30 - 60 kv) exists, in which objects of up to 50 Å should be examined. Also an improvement in the quality of the objectives can contribute to reduce the optimum values of the accelerating voltages. Curve 6 shows that an increase of the accelerating voltages beyond 200 does not offer remarkable advantages,

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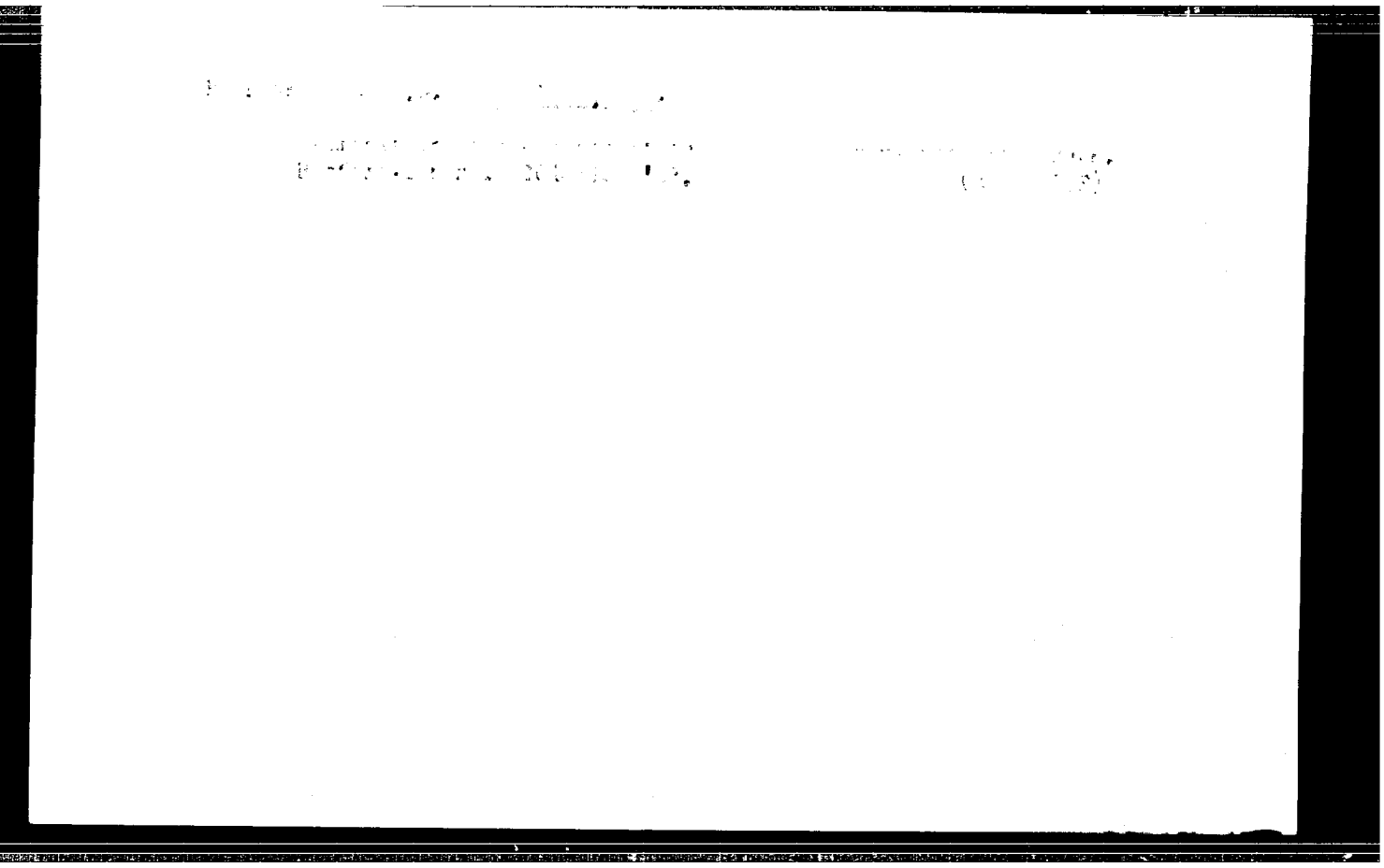
since the irradiation damage is not reduced. Microorganisms can be examined in an electron microscope with a resolving power of 70 Å, if various protective measures are applied; they remain viable after a single exposure to an accelerating voltage of 70 kv. The increase of the accelerating voltage up to and beyond 200 kv in order to reduce irradiation damage is only useful, if a method of contrast accentuation is available which has no deteriorating effect on the cell life and visualizes the structural details of a 20 - 50 Å object. Yu. M. Kushnir is thanked for taking an interest There are 1 figure and 9 references: 6 Soviet and 3 non-Soviet.

PRESENTED: June 15, 1961, by A. A. Lebedev, Academician

SUBMITTED: June 14, 1961

Card 4/5



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11335
S/020/63/148/004/015/025
B102/B186

AUTHORS: Stoyanova, I. G., Morozova, T. P.

TITLE: Investigation of the defects arising in electron-microscope objects under the action of the electrons

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 4, 1963, 810-813

TEXT: The structural defects produced in polyethylene single crystals undergoing electron irradiation were investigated. Such crystals were subjected to electron beams of 15μ diameter and the diffraction pictures obtained at different instants of time were compared. The electron irradiation is accompanied by an increase in number of the lattice defects which causes a drop in intensity of the interference maxima. The diffraction pattern is photographed on continuous exposure during certain periods of time, starting right after switching on the electron beam. The diffraction pictures are evaluated by photometry. For comparing the pictures a factor is set up which characterizes the lattice defects: $R = 1 - I(t)/I(t_o)$, where $I(t)/I(t_o)$ is the intensity ratio of the interference maxima at t and t_o. R(t) diagrams are drawn for the objects

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S/020/63/148/004/015/025

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in air, in helium and in air plus helium, at various pressures in the range 50 - $2 \cdot 10^{-4}$ mm Hg, and at various current densities (10^{-4} - 10^{-5} a/cm^2). The defect concentration increased the faster the lower the pressure; in vacuo the R(t) curves are very steep and R reaches the highest value measured after 10-20 sec. With V=100 kv and $5 \cdot 10^{-5}$ a/cm^3 after about 30 sec and with 50 kv after about 10 sec irradiation in vacuo the defect density becomes considerable. There are 3 figures.

PRESENTED: August 17, 1962, by A. A. Lebedev, Academician

SUBMITTED: April 26, 1962

Card 2/2

OPARIN, A.I., akademik; STCYANOVA, I.G.; SEREBROVSKAYA, K.B.; NEKRASOVA, T.A.

Electron microscopic study of coacervates. Dokl. AN SSSR 150 no.3 684-685 My '63. (MIRA 16:6)

1. Institut biokhimii im. A.N. Bakha AN SSSR.
(Coacervates) (Electron microscopy)

L 17840-65 EWT(1)/EWT(m)/EIF(c)/EIF(n)-2/EPA(w)-2/EEC(t)/EEC(b)-2/EWA(m)-2 Pr-4/
Pab-10/Pu-4 AS(mp)-2/SSD/APWL/APTC(b)/ESD(t) 99
ACCESSION NR: AP5000159 S/0032/64/030/012/1470/1473

AUTHORS: Stoyanova, I. G.; Marty*nenko, T. P.

TITLE: A study of the radiation damage to electron microscope objectives as a function of the research conditions

SOURCE: Zavodskaya laboratoriya, v. 30, no. 12, 1964, 1470-1473

TOPIC TAGS: electron microscope, electron microscopy, radiation damage

ABSTRACT: The effect of various research conditions on the radiation damage to electron microscope objectives was studied experimentally. The damage to the test objectives (monocrystals of low pressure polyethylene) was investigated using the methods developed by I. G. Stoyanova and T. P. Morozova (Doklady AN SSSR, 148; 810, 1963). A minimum time (10-70 sec, depending on conditions) in which no noticeable damage occurred was observed. The type and pressure of gas in the electron microscope was found to have a large effect on the damage. Analysis showed that the charge accumulated on the surface of the objective contributed to the objective damage and that, if these charges were compensated by ionized molecules, the damage was lessened. Least damage was therefore experienced with inert gases (oxygen in the air damaged the objective) at pressures sufficient to

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ACCESSION NR: AP5000159

provide the necessary amount of ionization for total compensation. The damage also varied with the irradiated area, being of a maximum for medium-sized areas, due to the charge accumulation (small areas would not accumulate sufficient charge, large areas permitted more complete compensation). With small doses (up to 10^6 roentgens/sec) there was no observable "after-effect" radiation damage, but at higher dosages damage was found to increase linearly with time after the radiation had been terminated. By establishing experimental conditions in accordance with the findings of the paper, the electron microscope objective radiation damage can be minimized. Orig. art. has: 5 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00

SUB CODE: OP NO REF SOV: 003 OTHER: 001

Card 2/2

KUFERMAN, M.Ye.; STOYANOVA, I.G.; YASHKE, Ye.V.; AMELIN, A.G.

Electron microscope determination of the size of sulfuric acid fog drops. Dokl. AN SSSR 155 no.6:1427-1428 Ap '64. (MIRA 17:4)

1. Nauchno-issledovatel'skiy institut po udobreniyam i insektofungitsidam im. Ya.V.Samoylova. Predstavleno akademikom S.I.Vol'fkovichem.

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ACC NR: AP6015761 (A,N) SOURCE CODE: UR/0048/66/030/005/0766/0768

AUTHOR: Anaskin, I.F.; Stoyanova, I.G.; Chyapas, A.F.

ORG: none

TITLE: An electron interference microscope and electron interferometer based on the UEMV-100 electron microscope /Report, Fifth All-Union Conference on Electron Micoscopy held in Sumy 6-8 July 1965/

SOURCE: AN SSSR. Izvestiya, Seriya fizicheskaya, v. 30, no. 5, 1966, 766-768

TOPIC TAGS: electron microscope, interferometer, prism

ABSTRACT: The authors very briefly describe an electrostatic biprism attachment for a UEMV-100 electron microscope, which makes it possible to operate the instrument as an electron interferometer or as an electron interference microscope. The electrostatic biprism consists of an approximately 1 micron diameter quartz fiber with a metallic coating maintained at a positive potential of a few volts. This biprism together with a slotted diaphragm is mounted in the electron beam. For use as an electron interference microscope it is advantageous to mount the biprism as close to the objective lens as possible. It was possible to achieve satisfactory operation with the biprism as close as 3 cm to the objective gap. Photographs are presented showing

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ACC NR: AP6015761

the interference fringes obtained in the measurement of the thickness of a film, and in the measurement of the contact potential between lead and chromium. For the latter measurement, lead was deposited on part of the chromium plated quartz fiber. Orig. art. has: 5 figures.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 001/ OTH REF: 006

Card 2/2

L 36342-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6015776 (A,N) SOURCE CODE: UR/0048/66/030/005/0829/0831

AUTHOR: Grishina, T. A.; Stoyanova, I. G.

ORG: none

TITLE: Investigation of the dependence of image quality on the specimen thickness in the case of an electron microscope with a long-focus objective /Report, Fifth All-Union Conference on Electron Microscopy held in Sumy 6-8 July 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 5, 1966, 829-831

TOPIC TAGS: electron microscope, optic resolution, chromatic aberration, spherical aberration, electron scattering/UEMV-100B electron microscope

ABSTRACT: The resolving power of a UEMV-100B electron microscope has been measured as a function of the thickness of the object. The microscope was equipped with an 8 mm focal length objective with chromatic and spherical aberration coefficients of 7.7 mm and 43 mm, respectively; the ratio of the gap width to the channel diameter of the objective was 0.8. The objects were films of Formvar with thicknesses ranging from 1 to 13.4 $\mu g/cm^2$ on which silver particles had been deposited. Measurements were made at accelerating potentials of 50, 75, and 100 kV and apertures of 0.0017, 0.0034, and 0.0085 radian. The results are presented graphically and are compared with calculations based on a formula that takes into account deterioration of the image due to

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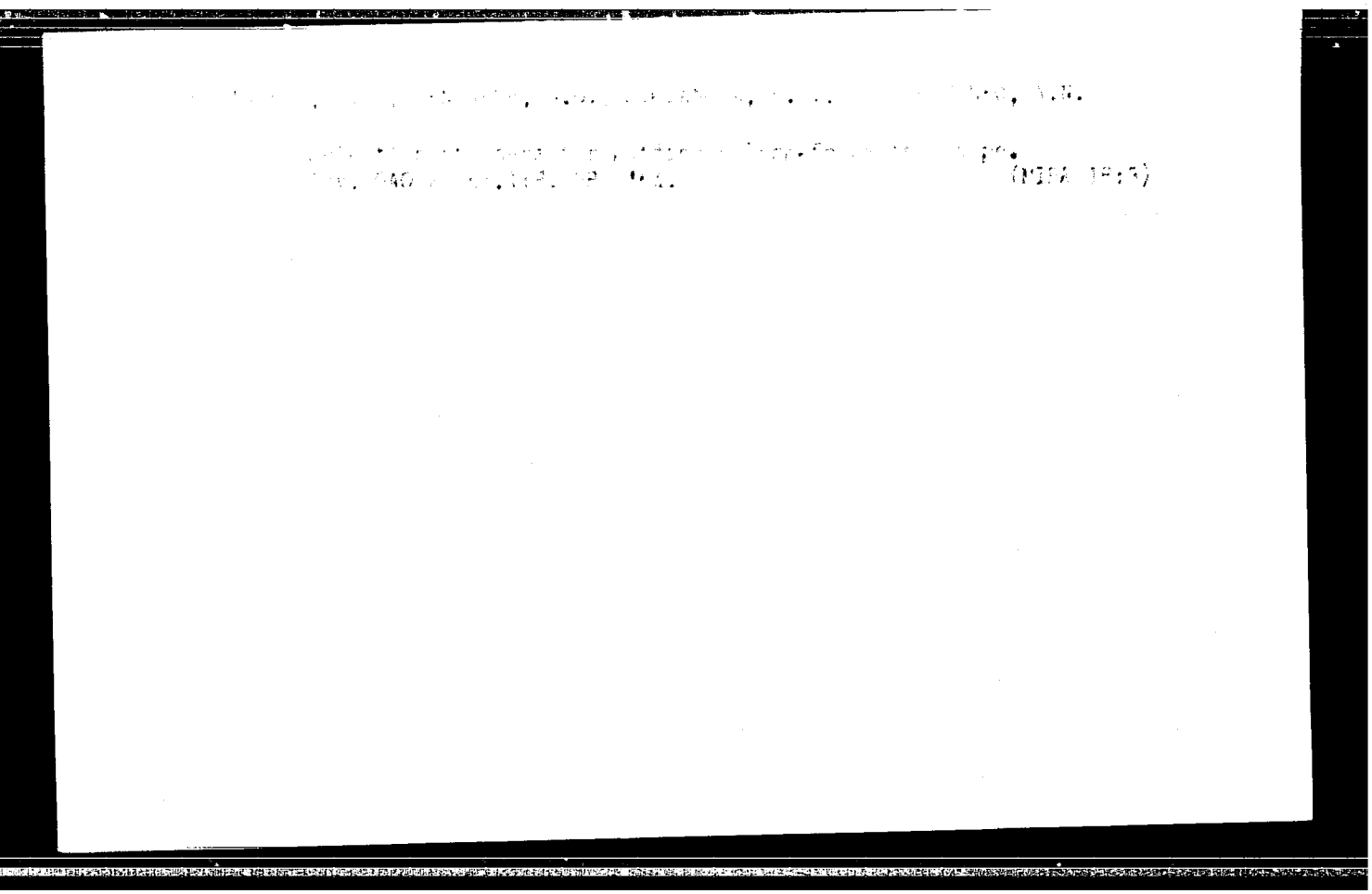
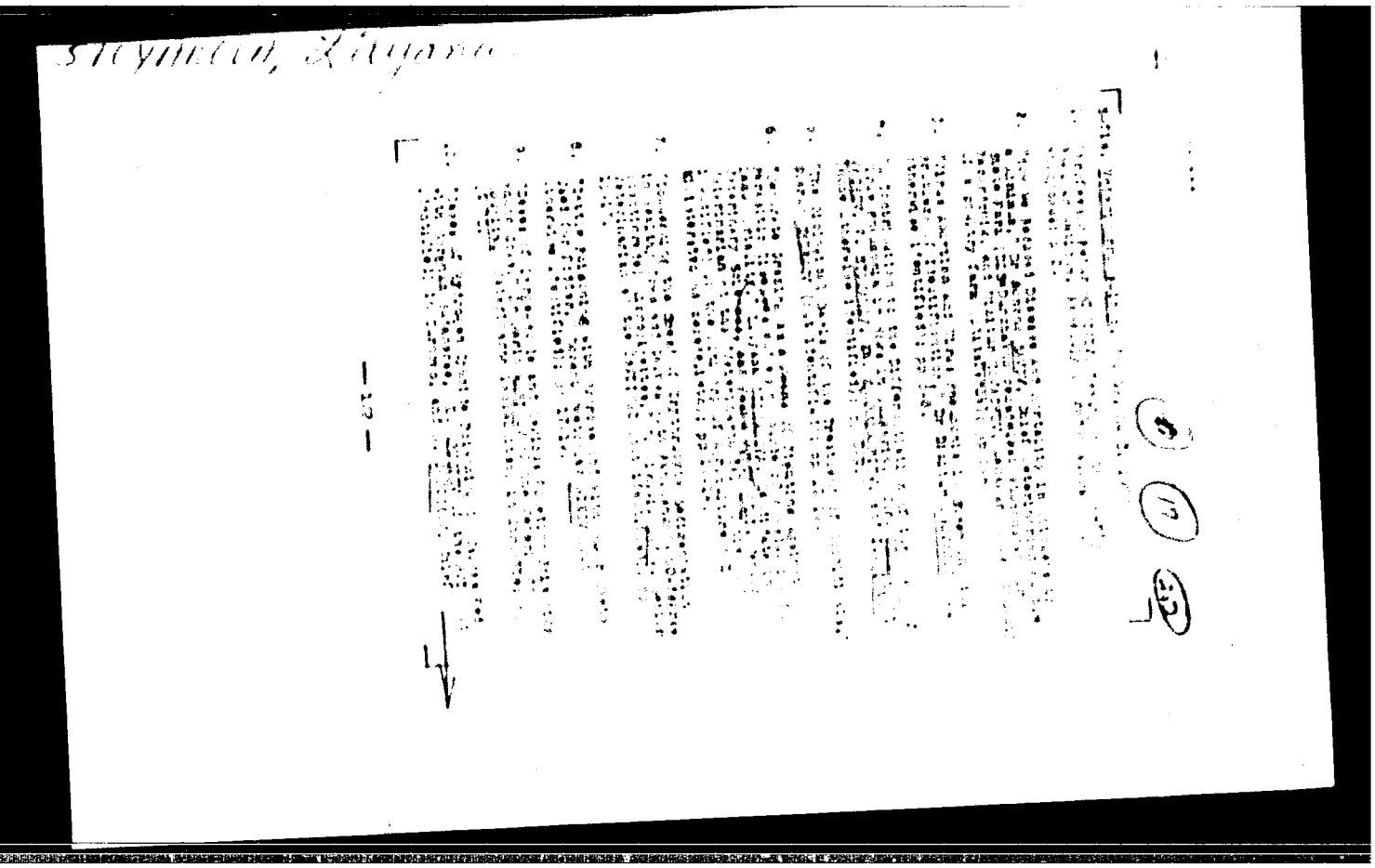
ACC NR: AP6015776

spherical aberration and diffraction error, chromatic aberration, and ripple in the accelerating potential and the excitation current of the objective. The calculated and measured values were in good agreement except for the case when the aperture was 0.0025 radian and the accelerating potential was 100 kV; the discrepancy in this case is ascribed to a difference between the theoretical and effective apertures. It was found that the image quality deteriorates the more rapidly with increasing specimen thickness, the larger the aperture and the lower the accelerating potential. The authors thank A.V.Iz"yurov for measuring the ripple in the high voltage supply. Orig. art. has: 1 formula, 2 figures, and 1 table.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 001/ OTH REF: 000

Card 2/2 UDC 45





LUZHIN, B.P.; STOYANOVA, L.I.

Age and growth rate of Schizothorax issykkuli Berg, Diptychus dybowskii landselli Gunther, and Leuciscus bergi Laschkarov in Lake Issyk-Kul'. Izv.AN Kir.SSR Ser.biol.nauk 1 no.4:111-124 '59. (MIRA 13:7)
(Issyk-Kul'--Carp)

H-23

BULGARIA/Chemical Technology, Chemical Products and Their Application, Part 3. - Treatment of Natural Gases and Mineral Oil, Motor and Rocket Fuel, Lubricants.

Abs Jour: Referat. Zhurnal Khimiya, No 10, 1958, 33832.

Author : M. Gerasimov, Kr. Kaishev, M. Stoyanova.
Inst : Not given.
Title : Coking of Tyulenovo Mineral Oil Reduced Crude for Manufacturing Ash-free Coke and Distillate.

Orig Pub: Minno delo, 1957, 12, No 4, 72-77.

Abstract; Experiments of coking petroleum asphalt from Tylenovo mineral oil were carried out in a steel retort with electric heating at 450 to 550°. It is shown that 18% by weight of coke is produced at the temperature of 500°. As far as the S and ash contents are concerned, this coke answers the requirements put to

Card : 1/2

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DONCHEV, D., STOYANOVA, M., GRIGOROVA, M., BALKANSKA, V., NENKOVA, V., DUMANOVA, S.

Parapertussis in kindergartens and nurseries in Sofia. Zhur. mikrobiol.epid. i immun. 29 no.5:69-74 My '58 (MIRA 11:6)

1. Is Nauchno-issledovatel'skogo instituta epidemiologii i mikrobiologii (Sofiya).
(WHOOPING COUGH,
parapertussis in Bulgaria (Rus))

ACC NR: AT6031772 (A) SOURCE CODE: BU/2503/65/005/009/0055/0064

AUTHOR: Pavlov, D.; Boton, M.; Stoyanova, M.

ORG: Institute of Physical Chemistry of the Bulgarian Academy of Sciences (Institut po fizikokhimiya. Bulgarska akademiya na naukite)

TITLE: Anodic corrosion of lead-antimony alloys with silver additions

SOURCE: Bulgarska akademiya na naukite. Institut po fizikokhimiya. Izvestiya. v. 5, 1965, 55-64

TOPIC TAGS: alloy, corrosion, anodic corrosion, corrosion rate, lead antimony alloy

ABSTRACT: Investigations were made of the stationary rate of oxidation of lead-antimony and lead-antimony-silver alloys with a low content of silver. It was established that with the increase of the content of antimony, an increase of the corrosion rate occurs and that the electrode potential decreases. Some additions of silver to lead-antimony alloys lower both the corrosion rate and the electrode potential. The above effects are explained by the simultaneous influence of additions on processes, taking place on the oxide-to-solution and metal-to-oxide boundary. [Authors' abstract]

Card 1/1 SUB CODE: 11/SUBM DATE:none/SOV REF: 009/ OTH REF: 002/

KRAT, V.A.; STOYANOVA, M.N.

Excitation of sodium and helium atoms and calcium ions (CaII) in an active prominence. Izv.GAO 23 no.2:42-46 '63. (MIRA 16:12)

S/0214/63/000/003/0046/0054

ACCESSION NR: AP4007591

AUTHOR: Stoyanova, M. N.

TITLE: Nature of a weak chromospheric flare

SOURCE: Solnechnyye dannyye, no. 3, 1963, 46-54

TOPIC TAGS: chromosphere spectrography, horizontal solar telescope, spectrogram, microphotometer, equivalent line width, electron temperature, electron concentration, radial velocity, helium filament, free electron, turbulent velocity, molecular weight, Fraunhofer line, level population, basic state atom, continous spectrum, photospheric radiation, relative optical depth, optical density, hydrogen luminescence, chromospheric flare

ABSTRACT: The author's studies were made on a very weak flare she observed 3 September 1962 at Pulkovo, using a horizontal solar telescope. Spectrograms were obtained for the $H\alpha$ and He D_3 segments. Fluctuations in the image did not exceed 2" in amplitude on that day. The contours of the D_3 line are very shallow, a fact that suggests the possibility that the optical thickness of the flare was slight. The author computed numbers of atoms along the line of sight (1 cm^2 cross section) for the second and third levels and found the ratio to be $1.27 \cdot 10^{-2}$ (upper

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ACCESSION NR: AP4007591

level to lower level), which compares favorably with the theoretical value of $1.3 \cdot 10^{-2}$. The contours for emission and absorption of the D_3 line are shown in Fig. 1 on the Enclosure. Those exhibit a Gaussian form. The contours for H_α, shown in Fig. 2 on the Enclosure, are not Gaussian, however. In seeking an explanation for these latter contours, the author found that for any assumed relative optical thickness in the flare a source function was obtained that was larger throughout the contour than the function obtained from population tables corresponding to the case of photospheric radiation. She concludes that the observed radiation was not caused by scattering, and for this reason the assumption that the source function changes along the contour does not hold (since the self radiation does not depend on radiation flux). On the assumption of a constant value of the source function, the author examined one-layer models with first a thin, then a thick optical thickness. Neither explained the shape of the contour, and she then investigated a two-layer model. This furnished an explanation, and she concludes that the emission of hydrogen cannot be explained by scattering of photospheric radiation but is caused by an increased population at the third level. "In conclusion, I express my sincere thanks to V. A. Krat for his guidance and his counsel during the performance of this work." Orig. art. has: 2 figures and 9 formulas.

ASSOCIATION: none

Card 2/5

KALAYDZHIYEV, V. [Kalaidzhiev, V. Kh.]; YOMTOV, M. [Iomtov, M.I.]; STOYANOVA, N. [Stoianova, N.]

A comparative analysis of the antigens of the S. typhi (TY-2) strain, and the vaccines obtained from it by precipitation in agar. Trudy epidemiol mikrobiol 8:17-20 '61 [publ.'62].

1. Otvetstvennyi redaktor, "Trudy Nauchno-issledovatel'skogo instituta epidemiologii i mikrobiologii" (for Kalaidzhiev).
2. Chlen Redaktsionnoy kollegii, "Trudy Nauchno-issledovatel'skogo instituta epidemiologii i mikrobiologii" (for Iomtov).

GRIGOROVA, M.D., d-r; STOYANOVA, M. [Stoianova, M.]; STOYANOV, D. [Stoianov, D.]

Experimental streptococcal infection in rabbits. Trudy epidemiol mikrobiol 8:21-30 '61 [publ.'62].

1. Chlen Redaktsionnoy kollegii, "Trudy Nauchno-issledovatel'skogo instituta epidemiologii i mikrobiologii" (for Grigorova).

DONCHEV, D.; GRIGOROVA, M.; STOYANOVA, M. [Stoianova, M.]

Variation of the sensibility of pathogenic staphylococci to antibiotics, 1957-1960. Trudy epidemiol mikrobiol 8:31-35 '61 [publ.'62].

GRIGOROVA, M.; DONCHEV, D.; STOYANOVA, M. [Stoianova, M.]; RACHEVA, B.; MARINOVA, N.

Studies of the infection of the newborn with pathogenic staphylococci. Trudy epidemiol mikrobiol 8:37-41 '61 [publ.'62].

DONCHEV, D.; STOYANOVA, M.

The epidemiological significance of the differentiation of pertussis and parapertussis. J. hyg. epidem., Praha 5 no.3:294-297 '61.

1. Research Institute of Epidemiology and Microbiology, Sofia.

(WHOOPING COUGH diag)
(RESPIRATORY TRACT INFECTIONS in infancy & childhood)

BULGARIA

L. GERDZHIKOV, M. STOYANOVA and Kh. MADZHAROVA [Affiliation not given.]

"Treatment of Laryngitis with Penicillin Combinations."

Sofia, Suvremenna Meditsina, Vol 14, No 5, 1963; pp 14-15.

Abstract: Senior author has long been advocating use of single but large doses of combined penicillins to prolong penicillemia beyond that achievable with the commonly used 600,000 units daily for 3 days in streptococcal throat infections. Comprehensive clinical data are now reported on 11 and 7 children treated with the two methods. Results confirm that the combined single massive dose is superior in preventing recurrence, increasing antistreptolysin titers and in other ways improving the clinical conditions.

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REZNIKOVA, L. S.; STOYANOVA, O. A.

Wassermann reaction with preserved ingredients. Vest. derm. i ven. 34 no.1:57-63 Ja '60. (MIRA 14:12)

1. Iz mikrobiologicheskogo otdela (zav. - prof. M. M. Ovchinnikov) TSentral'nogo kozhno-venerologicheskogo instituta (dir. - kandidat meditsinskikh nauk N. M. Turanov) Ministerstva zdravookhraneniya RSFSR.

(SYPHILIS—WASSERMAN REACTION)

REZNIKOVA, L.S.; STOYANOVA, O.A.

Complement fixation reaction under cold conditions in the diagnosis of syphilis. Lab. delo 7 no.3:28-29 Mr '61. (MIRA 14:3)

1. Mikrobiologicheskiy otdel (zav. - prof. N.M.Ovchinnikov) TSentral'nogo kozhno-venerologicheskogo instituta, Moskva.
(COMPLEMENT FIXATION) (SYPHILIS—DIAGNOSIS)

ROZNIKOVA, L.D.; STOYANOVA, O.I.

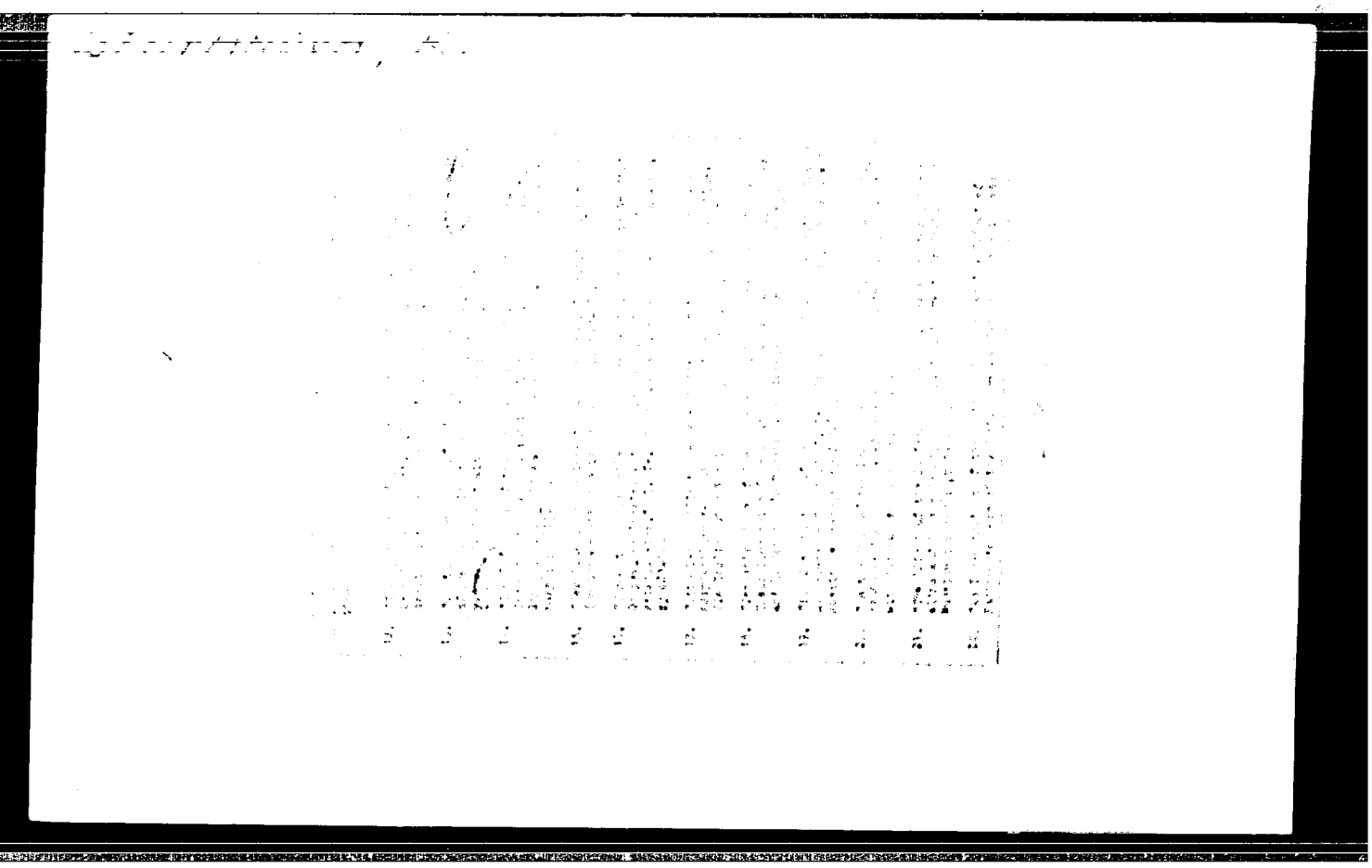
Standardization of raw yeast suspensions by photoelectrocolorimetry (FEK-M) for the complement fixation test (RSK). Vest. derm. i ven. 37 no.5:44-48 My '63. (MIRA 17:5)

1. Mikrobiologicheskiy otdel (zav. - prof. N.M. Cvetkinnikov) Tsentral'nogo kozhno-venerologicheskogo instituta (dir. - kand. med. nauk N.V. Turanov) Ministerstva zdravookhraneniya RSFSR.

REZNIKOVA, L.S.; STOYANOVA, O.A.

Experience in the use of cow serum instead of immune rabbit hemolysin in complement fixation reaction. Zhur. mikrobiol., epid. i immun. 40 no.6:119-121 Je '63. (MIRA 17:6)

1. Iz Tsentral'nogo kozhno-venerologicheskogo instituta.



IERMAN, G.M.; KORNEYEV, V.A.; STOYANOVA, T.L.

Spectral method for determining impurities in cobalt oxide. Zav.lab. 27 no.7:838-839 '61. (MIRA 14:7)
(Cobalt oxide--Spectra)

STOYANOVSKAYA, T.N.; KHOMCHENKO, G.P.; VOVCHENKO, G.D.

Behavior of the ruthenium electrode during deep anodic polarization. Vest.Mosk.un.Ser.2:Khim. 18 no.2:20-21 Mr-Ap '63. (MIRA 16:5)

1. Kafedra obshchey khimii Moskovskogo universiteta.
(Electrodes, Ruthenium) (Polarization (Electricity))